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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,748	07/24/2003	Shinichiro Fujita	116666	8137
25944	7590	03/27/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			SORRELL, ERON J	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,748

Applicant(s)

FUJITA ET AL.

Examiner

Eron J. Sorrell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/03-1/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 10-12 are directed toward a computer program. A computer program is considered functional descriptive material. Functional descriptive material is not statutory unless there is a positive recitation in the claims that the computer program is stored on a computer readable storage medium (see Interim Guidelines for Examination of Patent Application for Patent Subject Matter Eligibility Annex IV). The Examiner suggests amending the preamble to recite "A computer readable storage medium having a program stored thereon, that when executed causes..."

2. In the interest of compact prosecution, the Examiner will consider claims 10-12 on the merits as if they met the statutory requirements.

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Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Claims 1-20 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-20 of copending Application No. 10/781,721. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

5. The Examiner encourages the applicant to verify the disclosure of application 10/781,721 (US Pub. No. 2004/0230734). There appears to be two entirely separate disclosures, one filed 2/20/04 and another filed 7/12/04 that correspond to the same serial number. The Examiner also notes that there is no indication of any preliminary amendment made by the applicant for the identified application.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1,8-10,13, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bastiani et al. (U.S. Patent No. 6,636,922 hereinafter "Bastiani").

8. Referring to system claim 1, program claim 10, and method claim 13, Bastiani teaches a data transfer control system for data transfer through a bus (see item 104 in figure 3), comprising:

a command processing section (see item 104a in figure 3) which receives a command packet transferred through a first bus (see PCI bus connecting host 102 to device 116 in figure 3), issues a command indicated by the command packet to a device (item 116, figure 3) connected to a second bus (see item 110 in

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figure 3), and orders start of a direct memory access (DMA) transfer through the second bus (see lines 31-54 of column 10); and

a command abort section which aborts the command issued to the device connected to the second bus based on the command packet after the completion of the DMA transfer started based on the command packet (see lines 41-46 of column 10).

9. Referring to system claim 8 and method claim 20, Bastiani teaches the first bus transfers data conforming to the IEEE 1394 standard (see lines 41-51 of column 7), and the second bus transfers data conforming to the Advanced Technology Attachment/Advanced Technology Attachment Packet Interface (ATA/ATAPI) standard (see lines 31-40 of column 7).

10. Referring to claim 9, Bastiani teaches an electronic instrument (see figure 3), comprising:

a data transfer control system as defined in claim 1 (see rejection of claim 1, supra); and

a device coupled to the second bus (see item 116 in figure 3).

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Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2,3,11,14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani in view of Matsunaga et al. (US Pub. No. 2001/0042141 hereinafter "Matsunaga").

13. Referring to system claim 2, program claim 11, and method claim 14, Bastiani teaches the command abort section aborts a command which has been issued to the device connected to the second bus based on the first command packet after completion of a DMA transfer which has been started based on the first command packet (see lines 41-46 of column 10), however Bastiani fails to teach a command comparison section which compares contents of a first command packet transferred through the first bus before a bus reset with contents of a second command packet transferred through the first bus after the bus reset, when the bus reset that clears node topology information has occurred during the

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processing of the first command packet, and fails to teach the command is aborted when the contents of the first command packet are determined to be different from the contents of the second command packet.

Matsunaga teaches, in an analogous system, a command comparison section which compares contents of a first command packet transferred through the first bus before a bus reset with contents of a second command packet transferred through the first bus after the bus reset, when the bus reset that clears node topology information has occurred during the processing of the first command packet (see paragraph 17 of page 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to apply the above teachings of Matsunaga to the DMA transfer of Bastiani and abort the command when the contents of the first command packet are determined to be different from the contents of the second command packet.

One of ordinary skill in the art would have been motivated to make such modification in order to resolve the inconvenience to re-transmitting data after a bus reset as suggested by Matsunaga (see paragraph 12 of page 1).

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14. Referring to system claim 3 and method claim 15, Matsunaga teaches when a bus reset that clears node topology information occurs during processing of a first command packet, in a case where a command of the first command packet has been issued to the device connected to the second bus, the command of the first command packet is aborted (see paragraph 114 on page 5), and in a case where the command of the first command packet has not been issued to the device connected to the second bus, processing of a second command packet starts without aborting the command of the first command packet (see paragraph 115 on page 6).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system and method of Bastiani with the above teachings of Matsunaga for the same reasons as mentioned above.

15. Claims 4,5,12,16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani in view of Ogawa (JP 01106254).

16. Referring to system claim 4, program claim 12, and method claim 16, Bastiani fails to teach the command abort section

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controls dummy data transfer to or from the device connected to the second bus until the completion of the DMA transfer.

Ogawa teaches a system and method wherein a command abort section controls dummy data transfer to or from the device connected to the second bus until the completion of the DMA transfer (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system and method of Bastiani with the above teachings of Ogawa. One of ordinary skill in the art would have been motivated to make such modification in order to abort a command without disrupting the entire system.

17. Referring to system claim 5 and method claim 17, Bastiani teaches the command abort section aborts a command without controlling dummy data transfer when any DMA transfer is not being performed in determination of whether or not the command is to be aborted (see lines 36-46 of column 10, note the system of Bastiani aborts command whenever an error is encountered regardless of whether it was caused by the DMA).

18. Claims 6,7,18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani in view of Ogawa as applied

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to claims 4,12, and 16 above and further in view of Graziano et al. (U.S. Patent No. 5,758,075).

19. Referring to claims 6,7,18, and 19, the combination of Bastiani and Ogawa fails to teach the data transfer control system further comprises a pointer management section which manages pointers for a packet buffer which is a ring buffer and temporarily stores transferred data, the pointer management section updating a first pointer each time when data transferred from the second bus is written in the packet buffer and updating a third pointer each time when data to be transferred to the second bus is read from the packet buffer, and also updating a second pointer each time when data to be transferred to the first bus is read from the packet buffer, wherein a dummy update is performed on the second pointer so that the first pointer does not go ahead of the second pointer and a dummy update on the fourth pointer so that the third pointer does not go ahead of the fourth pointer.

Graziano teaches, in an analogous system, a pointer management section for managing pointers to a packet buffer comprising first, second, third, and fourth, pointers (see item 122 in figure 5), the pointer management section updating pointers as data is transferred to and from the packet buffer

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(see lines 16-35 of column 14), and wherein a dummy update is performed on the second pointer so that the first pointer does not go ahead of the second pointer and a dummy update on the fourth pointer so that the third pointer does not go ahead of the fourth pointer (see lines 59-65 of column 14).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Bastiani and Ogawa with the above teachings of Graziano. One of ordinary skill in the art would have been motivated to make such modification in order to control the flow of data in both directions as suggested by Graziano (see lines 21-23 of column 2).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following U.S. Patent is cited to further show the state of the art as it pertains to the applicant's invention:

U.S. Patent No. 6,948,028 to Yoshida as it shows a command receiving section that receives a command, starts a DMA transaction, then can abort the command.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J.

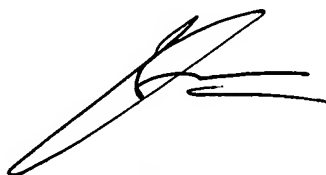
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Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS
March 17, 2006



KIM HUYNH
SUPERVISORY PATENT EXAMINER
3/20/06